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ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000

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Terry A. Vaeth
Manager
DOE, RFO

Attn: R. H. Birk

EXPLOSIVE GAS MONITORING AT THE OPERABLE UNIT NO. 7 (OU 7) PRESENT LANDFILL - RLB-0648-92

Ref: F. R. Lockhart ltr (11389) to R. Benedetti, Explosive Gas Monitoring at the Present Landfill (IHSS 114), OU 7, September 29, 1992

Background: On February 6, 1992 a request was made by N. D. Fryback to the Earth Resources Division (ERD) to assist the Waste Operations group with installing several explosive gas monitoring wells in the Present Landfill. This request was made since ERD had a drill rig already operating in the buffer zone on a project that was nearly complete and little effort would be required to retain it on site for this effort. A notice of intent to drill was submitted April 28, 1992 to Fred Loo of the Colorado Division of Water Resources, Office of the State Engineer.

Five wells were installed within the landfill (Attachment 1). Wells were drilled to varying depths through the landfill material into the bedrock. All wells were plugged back to the bedrock/fill material interface with bentonite pellets.

A request was made on September 21, 1992 by the Colorado Department of Health (CDH) for more information with respect to the following issues:

1. What was the disposition of the drill cuttings?

2. Because these wells were drilled to bedrock, what steps were taken to ensure that no contamination reached bedrock aquifers? How were wells completed in relation to the top of the bedrock?

3. Has water accumulation been monitored?

4. What gases are being monitored and what are the monitoring methods and schedule?

5. What are the anticipated effects on the OU 7 Field Sampling Plan?

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Response to CDH questions:

1. Per DCN 92.04 to SOP FO.8, Handling of Drilling Fluids and Cuttings, all cuttings generated at the landfill were not drummed. These cuttings were moved by Operations staff to the working face for incorporation back into the landfill.

2. The drilling technique used for this operation was the hollow stem auger method. No drilling fluid were used to install these wells, which significantly reduces the chance of cross contamination. All wells were backfilled with bentonite pellets to the top of the bedrock during well completion. Attachment 2 is a schematic of typical well completion for methane monitoring wells within the Present Landfill.

3. No water accumulation monitoring has been performed. All bedrock encountered was claystone with little moisture content.

4. Methane is being monitored at eleven locations throughout the landfill. Attachment 3 outlines the current monitoring program and lists some preliminary results.

5. Although the explosive gas monitoring wells were installed by Operations staff and the Remedial Programs (RPD) staff was not directly involved, Operations personnel made significant efforts to keep OU 7 project management informed and designed final well locations to be beneficial for both parties. All monitoring wells were cored and the core is being stored for use during the OU 7 Phase I RFI/RI investigation. This data will augment data being collected for the investigation. None of the well locations will adversely impact implementation of the Field Sampling Plan.

If you have questions or require additional information please contact T. P. O'Rourke of Remediation Programs at extension 8577 or digital page 5475.

R. L. Benedetti
Associate General Manager (Acting)
Environmental Restoration Management
EG&G Rocky Flats, Inc.

TPO:cet

Orig. and 1 cc - T. A. Vaeth

Attachments:
As Stated (3)

cc:
F. R. Lockhart - DOE, RFO